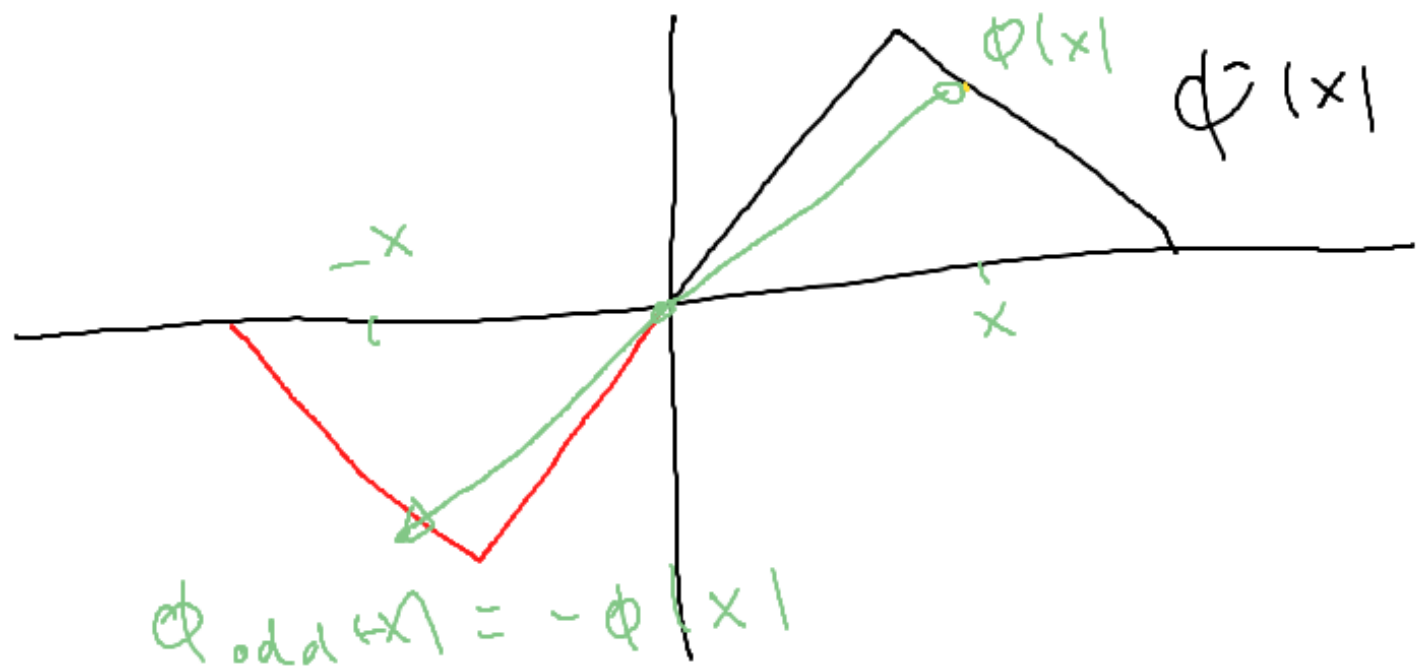


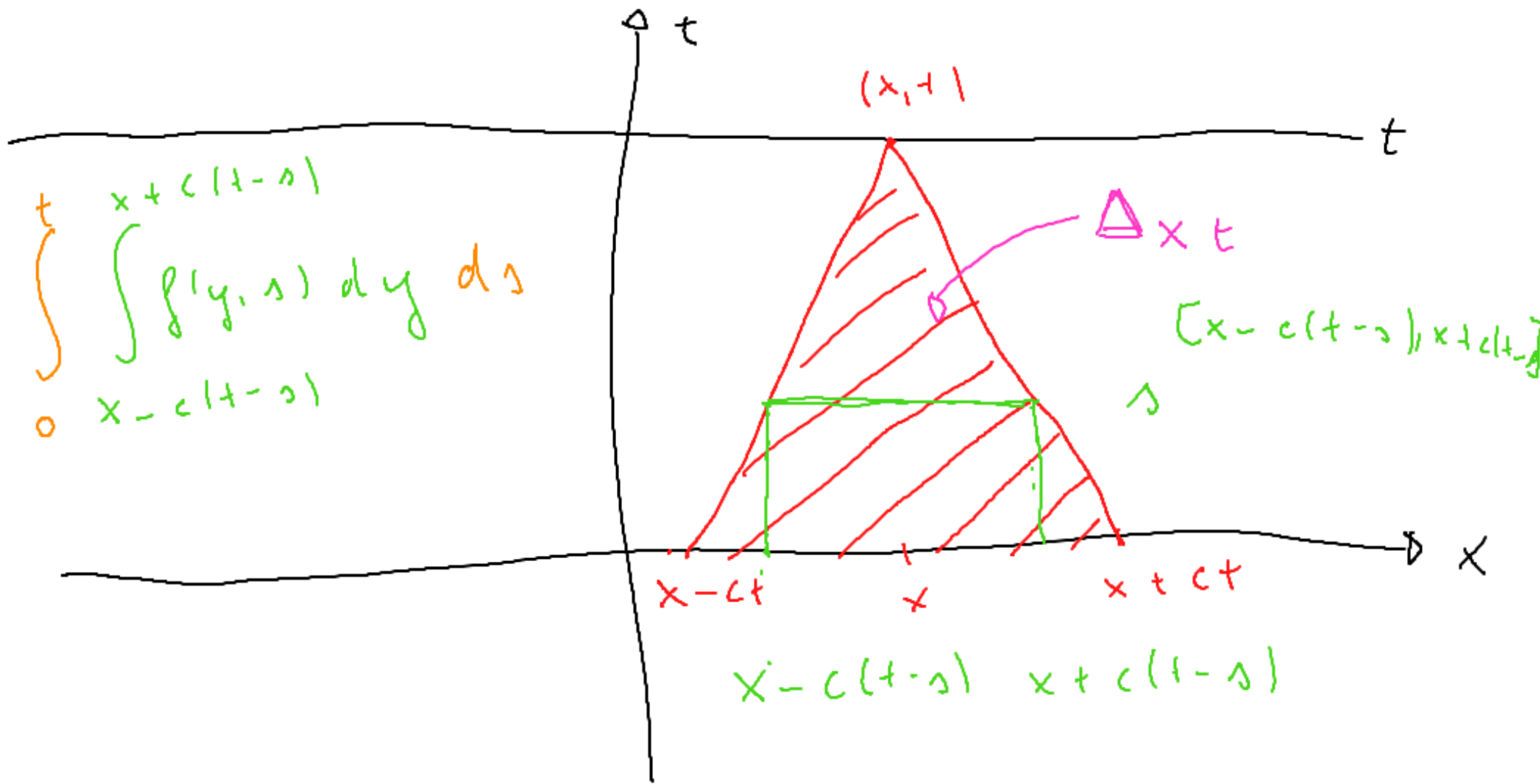
Additional Office Hours

on
next Friday ~~AM~~ ~~PM~~ ~~ET~~

10:30 - 12:30

am





$$\frac{d^2}{dt^2} \int_0^t S(t-s) f(s) ds$$

$$= \frac{d}{dt} \left[\underbrace{S(0) f(t)}_f + \int_0^t \frac{d}{dt} S(t-s) f(s) ds \right]$$

$$= \frac{d}{dt} \int_0^t \frac{d}{dt} S(t-s) f(s) ds$$

$$= \underbrace{\frac{d}{dt} S(t) f(t)}_{f'(t)} + \int_0^t \underbrace{\frac{d^2}{dt^2} S(t-s) f(s)}_{\frac{d^2}{dt^2} S(t-s) f(s)} ds$$

S(1):

$$S(0) \phi = 0$$

$$\frac{d}{dt} S(t) = \psi$$

